

(b) a second NS encoding a functional splice acceptor site;  
wherein:

- (i) the functional splice donor site and the functional splice acceptor site flank a first nucleotide sequence of interest ("NOI");
- (ii) the functional splice donor site is upstream of the functional splice acceptor site; and
- (iii) the retroviral vector is formed as a result of reverse transcription of a retroviral pro-vector, wherein the retroviral pro-vector comprises:
  - (a) a first nucleotide sequence ("NS") encoding the splice donor site; and
  - (b) a second NS encoding the splice acceptor site;  
wherein the first NS is downstream of the second NS; such that the retroviral vector comprising a first NS encoding a functional splice donor site and a second NS encoding a functional splice acceptor site is formed as a result of reverse transcription of the retroviral pro-vector.

2. (Amended) A retroviral vector delivery system according to claim 1 wherein the retroviral pro-vector comprises a third NS that is upstream of the second NS; wherein the third NS encodes a non-functional splice donor site in the retroviral vector.

3. (Twice Amended) A retroviral vector delivery system according to claim 1 wherein the retroviral vector further comprises a second NOI; wherein the second NOI is downstream of the functional splice acceptor site.

4. (Twice Amended) A retroviral vector delivery system according to claim 3 wherein the retroviral pro-vector comprises the second NOI; wherein the second NOI is upstream of the second NS.

5. (Twice Amended) A retroviral vector delivery system according to claim 3 wherein the second NOI, or the expression product thereof, is or comprises a therapeutic agent or a diagnostic agent.

6. (Twice Amended) A retroviral vector delivery system according to claim 1 wherein the first NOI, or the expression product thereof, is or comprises any one or more of an agent conferring selectability, a viral essential element, or a part thereof, or combinations thereof.

7. (Twice Amended) A retroviral vector delivery system according to claim 1 wherein the first NS is at or near to the 3' end of a retroviral pro-vector.

8. (Twice Amended) A retroviral vector delivery system according to claim 7 wherein the first NS of the retroviral pro-vector comprises a third NOI; wherein the third NOI is any one or more of a transcriptional control element, a coding sequence, or a part thereof.

9. (Twice Amended) A retroviral vector delivery system according to claim 1 wherein the first NS is a viral NS.

10. (Amended) A retroviral vector delivery system according to claim 9 wherein the first NS is an intron or a part thereof.

11. (Amended) A retroviral vector delivery system according to claim 10 wherein the intron is the small t-intron of SV40 virus.

12. (Twice Amended) A retroviral vector delivery system according to claim 1 wherein the retroviral pro-vector comprises a retroviral packaging signal; and wherein the second NS is located downstream of the retroviral packaging signal such that splicing is prevented at a primary target site.

13. (Twice Amended) A retroviral vector delivery system according to claim 1 wherein the second NS is placed downstream of the first NOI such that the first NOI is expressed at a primary target site.

14. (Twice Amended) A retroviral vector delivery system according to claim 1 wherein the second NS is placed upstream of a multiple cloning site such that one or more additional NOIs may be inserted.

15. (Twice Amended) A retroviral vector delivery system according to claim 1 wherein the second NS is a nucleotide sequence coding for an immunological molecule or a part thereof.

16. (Amended) A retroviral vector delivery system according to claim 15 wherein the immunological molecule is an immunoglobulin.

17. (Amended) A retroviral vector delivery system according to claim 16 wherein the second NS is a nucleotide sequence coding for an immunoglobulin heavy chain variable region.

18. (Twice Amended) A retroviral vector delivery system according to claim 1 wherein the vector additionally comprises a functional intron.

19. (Amended) A retroviral vector delivery system according to claim 18 wherein the functional intron is positioned so that it restricts expression of at least one of the NOIs in a desired target site.

20. (Amended) A retroviral vector delivery system according to claim 19 wherein the target site is a cell.

21. (Twice Amended) A retroviral vector delivery system according to claim 1 wherein the vector or pro-vector is a murine oncoretrovirus or a lentivirus retroviral vector or pro-vector.

22. (Amended) A retroviral vector delivery system according to claim 21 wherein the vector is a MMLV, MSV, MMTV, HIV-1, or EIAV retroviral vector.

23. (Twice Amended) A retroviral vector delivery system as defined in claim 1 wherein the retroviral vector is an integrated provirus.

24. (Twice Amended) A retroviral particle obtained from a retroviral vector delivery system according to claim 1.

25. (Twice Amended) A cell transfected or transduced with a retroviral vector delivery system according to claim 1 or a cell transfected or transduced with a retroviral particle obtained from a retroviral vector according to claim 1.

26. (Twice Amended) A retroviral vector delivery system according to claim 1 for use in medicine.

28. (Twice Amended) A method of delivering a gene to a target cell comprising transfecting or transducing a target cell with a retroviral vector according to claim 1.

29. (Twice Amended) A retroviral vector delivery system according to claim 1 or a viral particle obtained from said retroviral vector or a cell transfected or transduced with said retroviral vector or said retroviral particle, wherein the delivery system comprises one or more non-retroviral expression vector(s), adenovirus(es), or plasmid(s) or combinations thereof for delivery of an NOI or a plurality of NOIs to a first target cell and a retroviral vector for delivery of an NOI or a plurality of NOIs to a second target cell.

31. (Twice Amended) A retroviral vector delivery system according to claim 1 comprising a functional intron that can restrict expression of one or more NOIs within a desired target cell.

32. (Twice Amended) A retroviral vector delivery system according to claim 1 wherein the first NS is delivered by a reverse transcriptase from the 3' end of the retroviral pro-vector to the 5' end of the retroviral vector.

33. (Twice Amended) A hybrid viral vector delivery system for *in vivo* gene delivery comprising one or more primary viral vectors which encode a secondary viral vector, wherein the primary vector or vectors infects a first target cell and of expressing therein the secondary viral vector, and wherein the secondary vector transduces a secondary target cell.

34. (Twice Amended) A hybrid viral vector delivery system according to claim 33 wherein the primary vector is obtained from or is based on a adenoviral vector and the secondary viral vector is obtained from or is based on a retroviral vector.

35. (Twice Amended) A hybrid viral vector delivery system according to claim 33 wherein the secondary viral vector is a lentiviral vector and said lentiviral vector has a split-intron configuration.

36. (Twice Amended) A hybrid viral vector delivery system according to claim 33 wherein the secondary viral vector is a lentiviral vector and the lentiviral vector comprises or delivers a split-intron configuration.

37. (Amended) A lentiviral vector delivery system wherein the lentiviral vector comprises or delivers a split-intron configuration.

38. (Amended) An adenoviral vector delivery system wherein the adenoviral vector comprises or delivers a split-intron configuration.

39. (Amended) Vectors or plasmids based on or obtained from any one or more of the entities selected from the group consisting of pE1splA, pCI-Neo, pE1RevE, pE1HORSE3.1, pE1PEGASUS4, pCI-Rab, and pE1Rab.

40. (Twice Amended) A hybrid viral vector delivery system for *in vivo* gene delivery, said system comprising a primary viral vector which encodes a secondary viral vector, wherein:

- (a) the primary vector infects a first target cell and expresses therein the secondary viral vector,
- (b) the secondary vector transduces a secondary target cell, and
- (c) the primary vector is obtained from or is based on a adenoviral vector and the secondary viral vector is obtained from or is based on a retroviral vector.

41. (Twice Amended) A hybrid viral vector delivery system for *in vivo* gene delivery, said system comprising a primary viral vector which encodes a secondary viral vector, wherein:

- (a) the primary vector infects a first target cell and expresses therein the secondary viral vector,
- (b) the secondary vector transduces a secondary target cell,
- (c) the primary vector is obtained from or is based on a adenoviral vector and the secondary viral vector is obtained from or is based on a retroviral vector; and
- (d) the viral vector system comprises:
- (1) a functional splice donor site; and
  - (2) a functional splice acceptor site;

wherein:

- (i) the functional splice donor site and the functional splice acceptor site flank a first nucleotide sequence of interest ("NOI");
- (ii) the functional splice donor site is upstream of the functional splice acceptor site;
- (iii) the retroviral vector is formed as a result of reverse transcription of a retroviral pro-vector;
- (iv) the retroviral pro-vector comprises a first nucleotide sequence ("NS") yields the functional splice donor site and a second NS yields the functional splice acceptor site; and
- (v) the first NS is downstream of the second NS; such that the retroviral vector is formed as a result of reverse transcription of the retroviral pro-vector.

42. (Twice Amended) A retroviral vector delivery system according to claim 1 wherein said retroviral vector delivery system differentially expresses NOIs in target cells.

Please add the following new claims.